



The NRL Tropical Cyclone Web Resource

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Sponsors:

**Office of Naval Research (ONR)
SPAWAR PEO C4I&Space/PMW-180**

METSAT Conference



NRL TC Web Resource

Storm Basins & Names

- 2008 Storms
 - All
 - Active
 - Year
- Atlantic
 - 11L.KYLE
- East Pacific
- Central Pacific
- West Pacific
 - 99W.INVEST KML
 - 98W.INVEST KML
 - 44W.NRLINVEST KML
 - 19W.JANGMI KML
 - 049.TCS049 KML
 - 048.TCS048 KML
 - 047.TCS047 KML
- Indian Ocean
- Southern Hem.
- Season: 09

Latest Previous **Thumb** Full Pass_Mosaic Mosaic Loop ATCF Track&Image **Scat** **CloudSat**

Environment Total_Precip._Water_Vapor[TPW] TPW&NOGAPS_TPW TPW&NOGAPS_850_Winds Wind_Shear

Sensor	% Cov	VIS	IR	IR-BD	Multi Sens.	85GHz H	85GHz weak	85GHz PCT	Color	Rain	Wind	37GHz Color	37GHz V	37GHz H	SSM/I Vapor
SSM/I	60%														
SSMIS	76%														
TMI	60%														
AMSRE	89%														
WINDSAT	90%														
AMSUB	81%														

Legend: ■ <= 6 hrs. old, ■ <= 12 hrs. old, ■ > 12 hrs. old

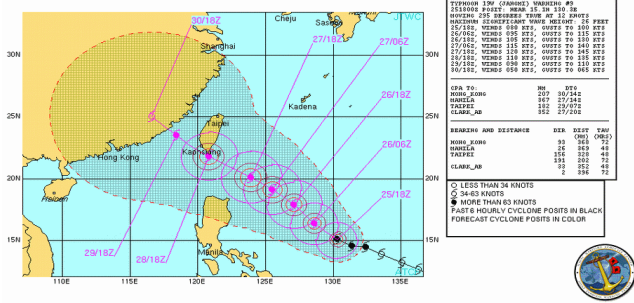
047.TCS047, GEO, 26 SEP 2008 0030Z

Tutorials: Overview **COMET**

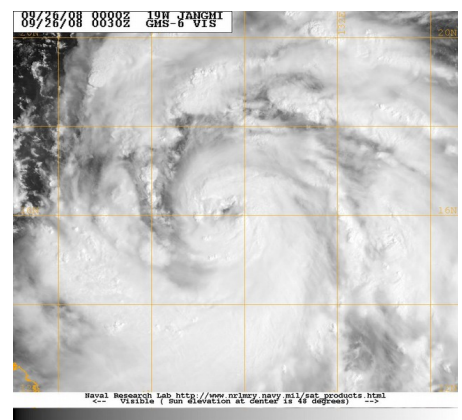
Scatterometer & CloudSat

Vis/IR imagery suite

Microwave imager/sounder product suite



Automated Tropical Cyclone Forecasting (ATCF) System warning graphic



Latest 1-km Visible/IR imagery (GEO/LEO)

30 minute MTSAT refresh with AVHRR/OLS as available

NRL Satellite Page



NRL TC Web Resource

Wind Vector Processing- Display Upgrades

Problem:

- **Additional R&D QuikSCAT data sets available,**
- **Old processing/display code unsupportable, lacks functionality**
- **Wind vector overlay time matchups poor**

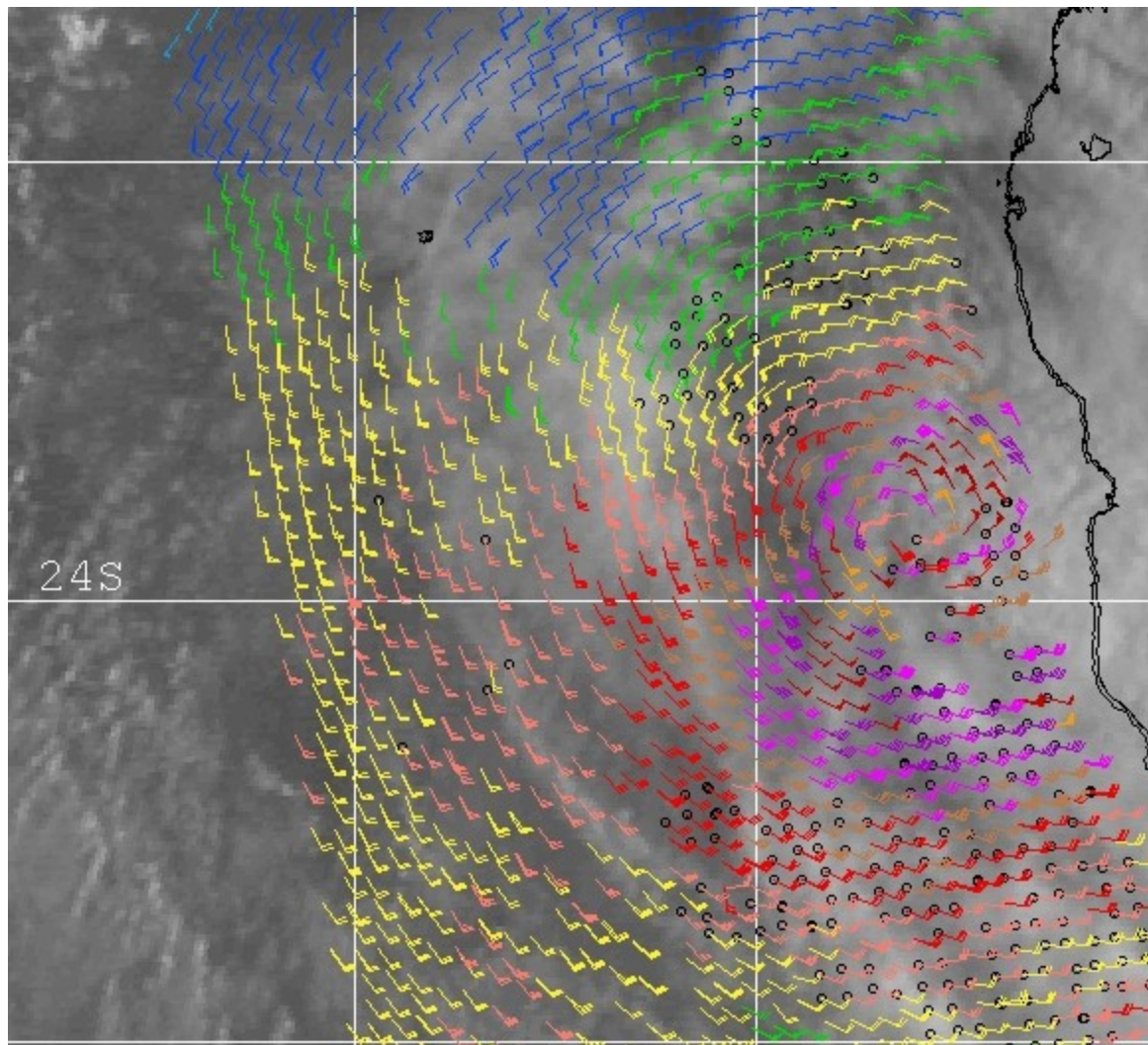
Solution (Mindy Surratt):

- **Acquire 12.5 km NESDIS QuikSCAT “test” data sets,**
- **Revamp processing and display code with enhanced time matchups**



Scatterometer Product Suite

NEOS125km1R00 overlay



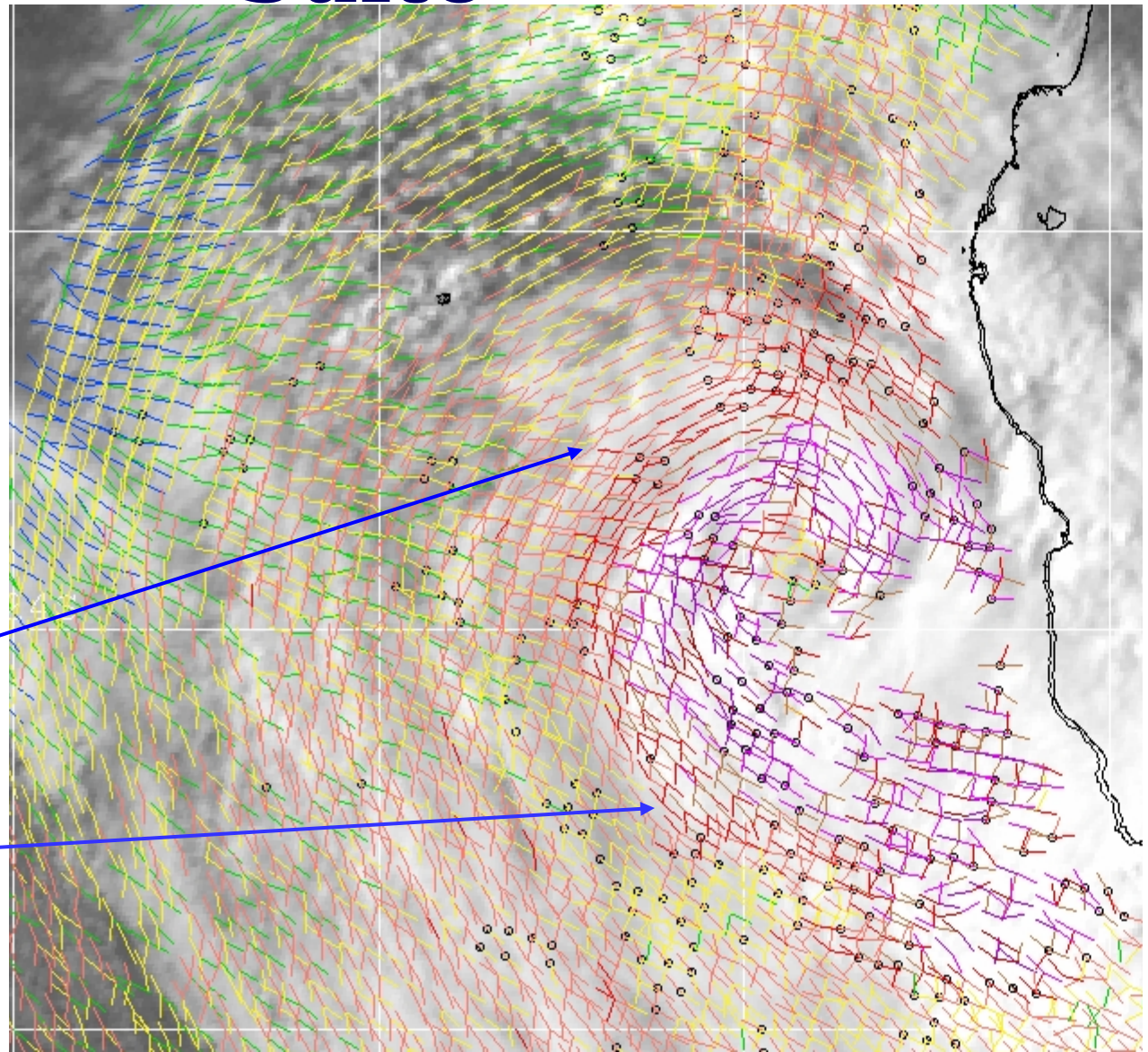


Scatterometer Product Suite

**Ambiguities:
NESDIS 12.5 km
GEO Vis Underlay**

**Ambiguity speeds
color coded**

**Increasing vector
length can assist in
streamline analysis**



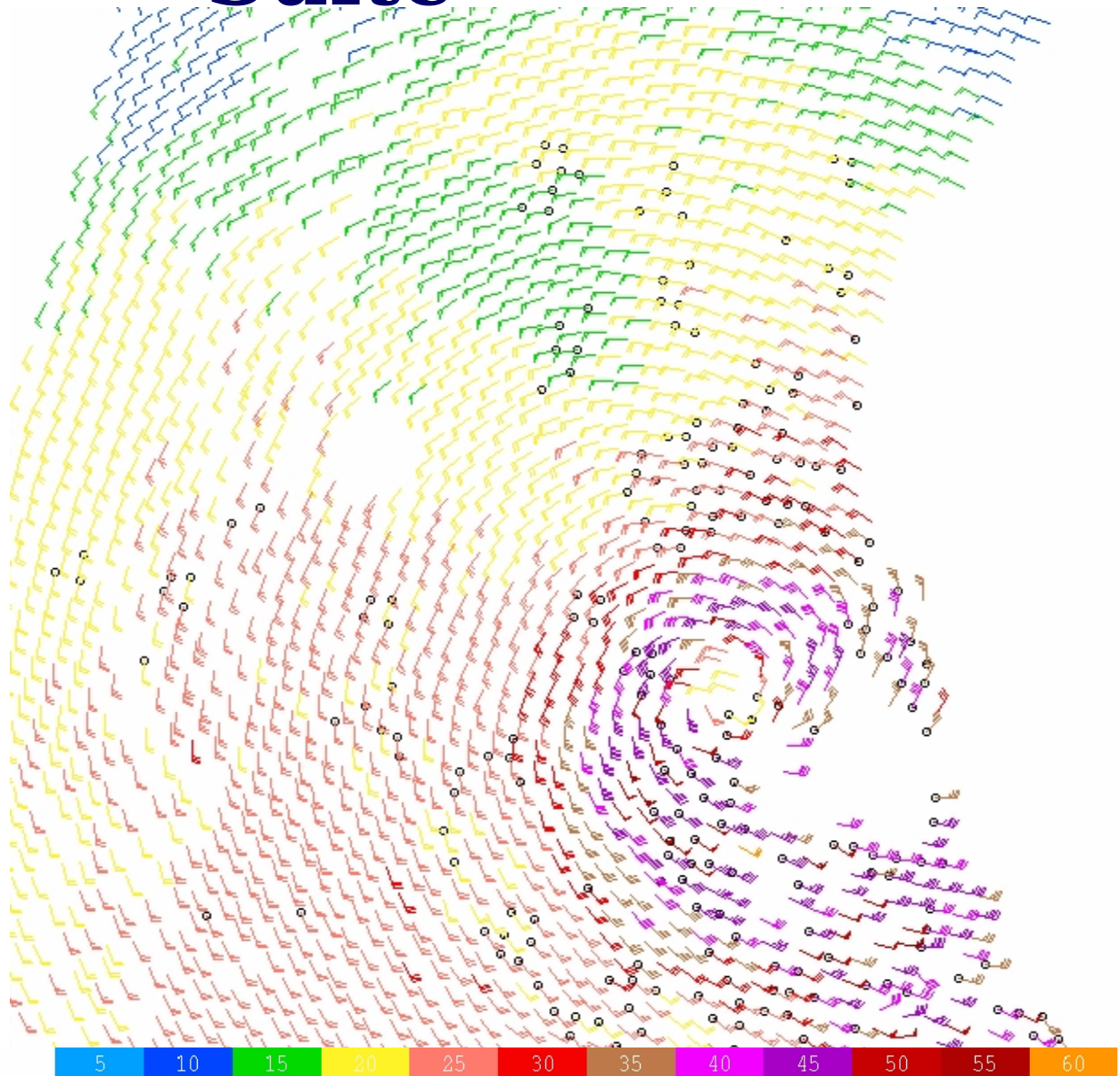


Scatterometer Product Suite

**QuikSCAT Vectors:
NESDIS 12.5 km**

**No Background
ATCF compatible
MetocTIFF**

**Ambiguity speeds
color coded**

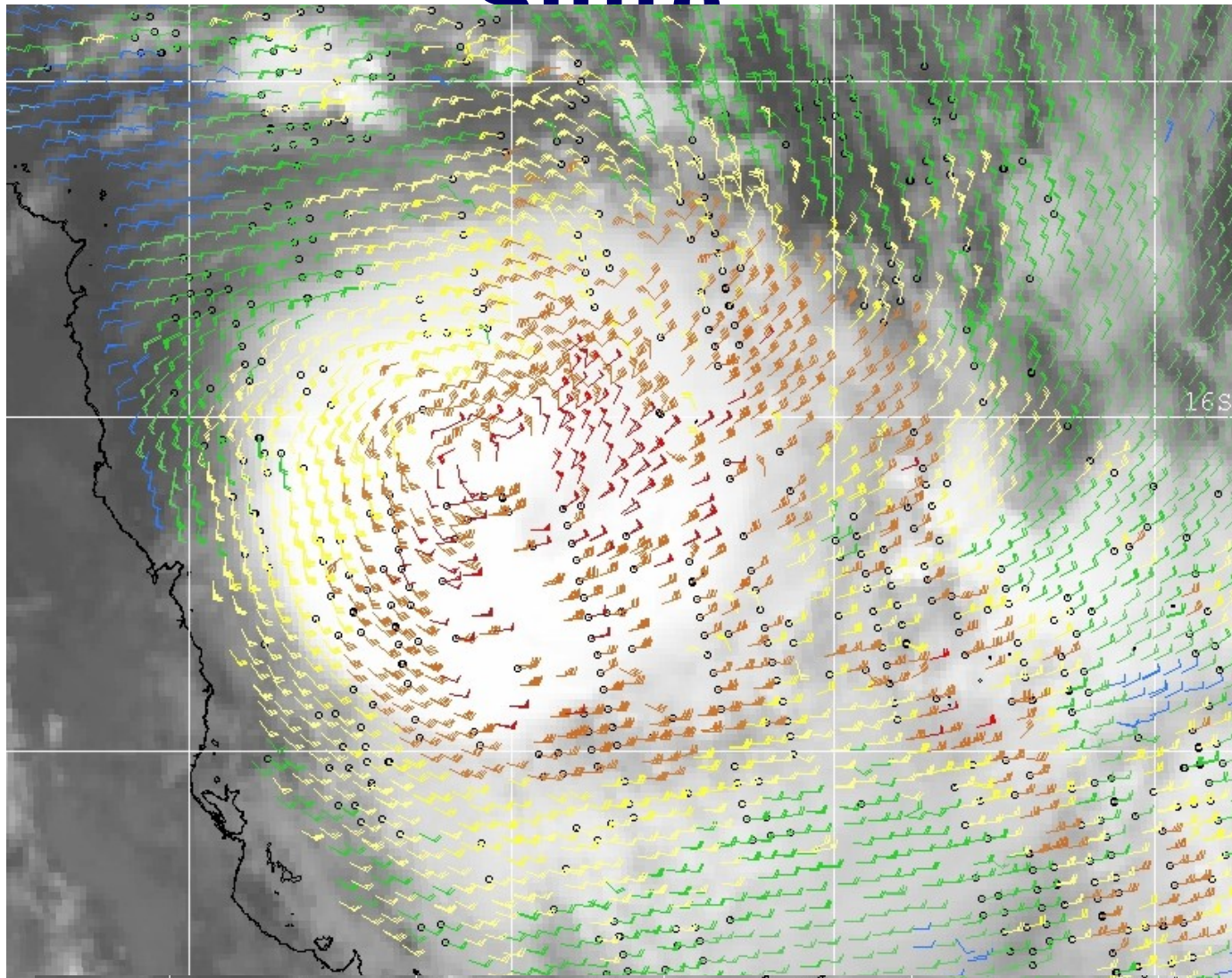




Scatterometer Product

Smith

New wind
speed color
table

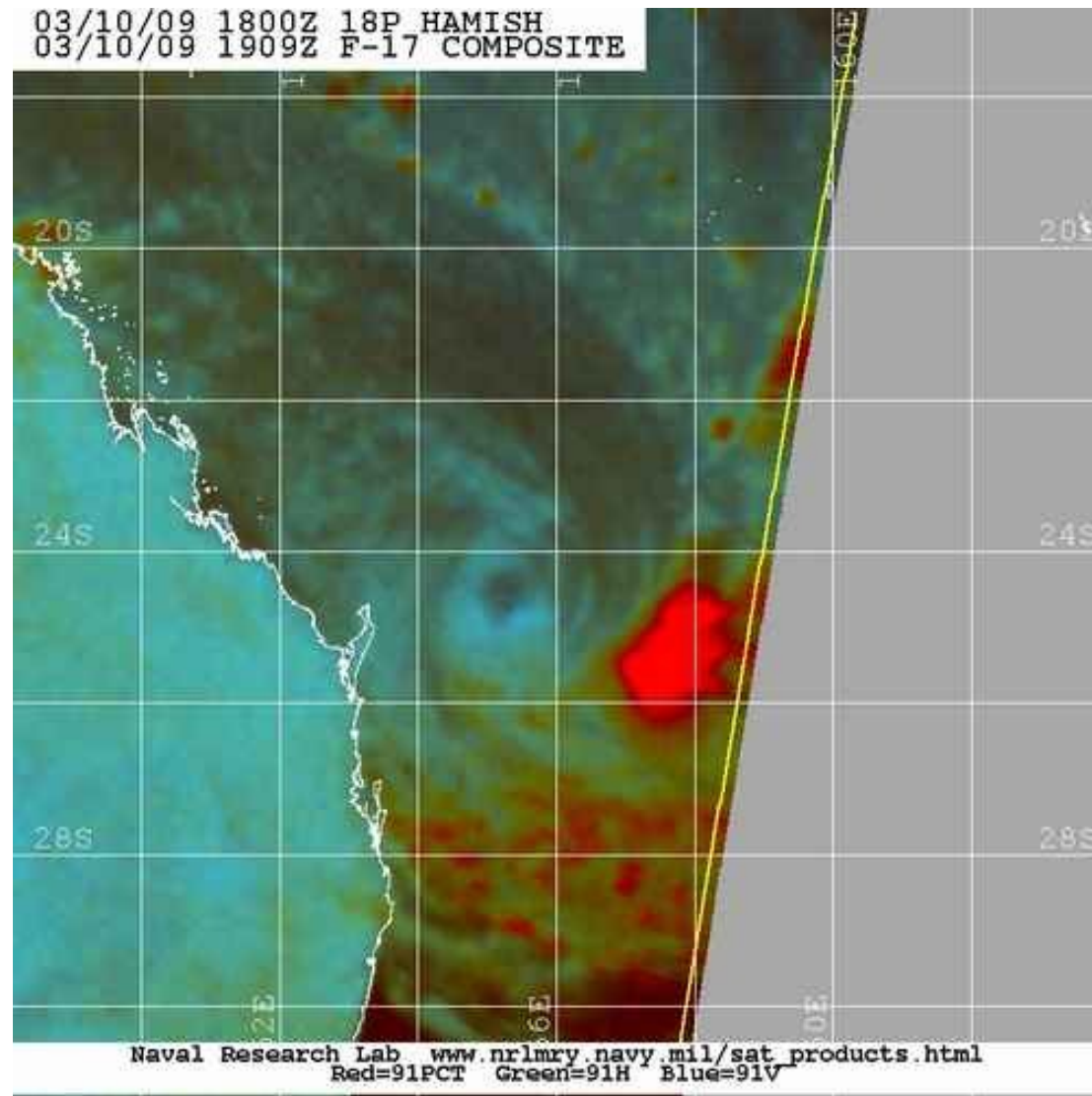


Naval Research Laboratory http://www.nrlmry.navy.mil/sat_products.html
QuikScat (NESDIS_HIRES_PRIM) Vectors (knots)





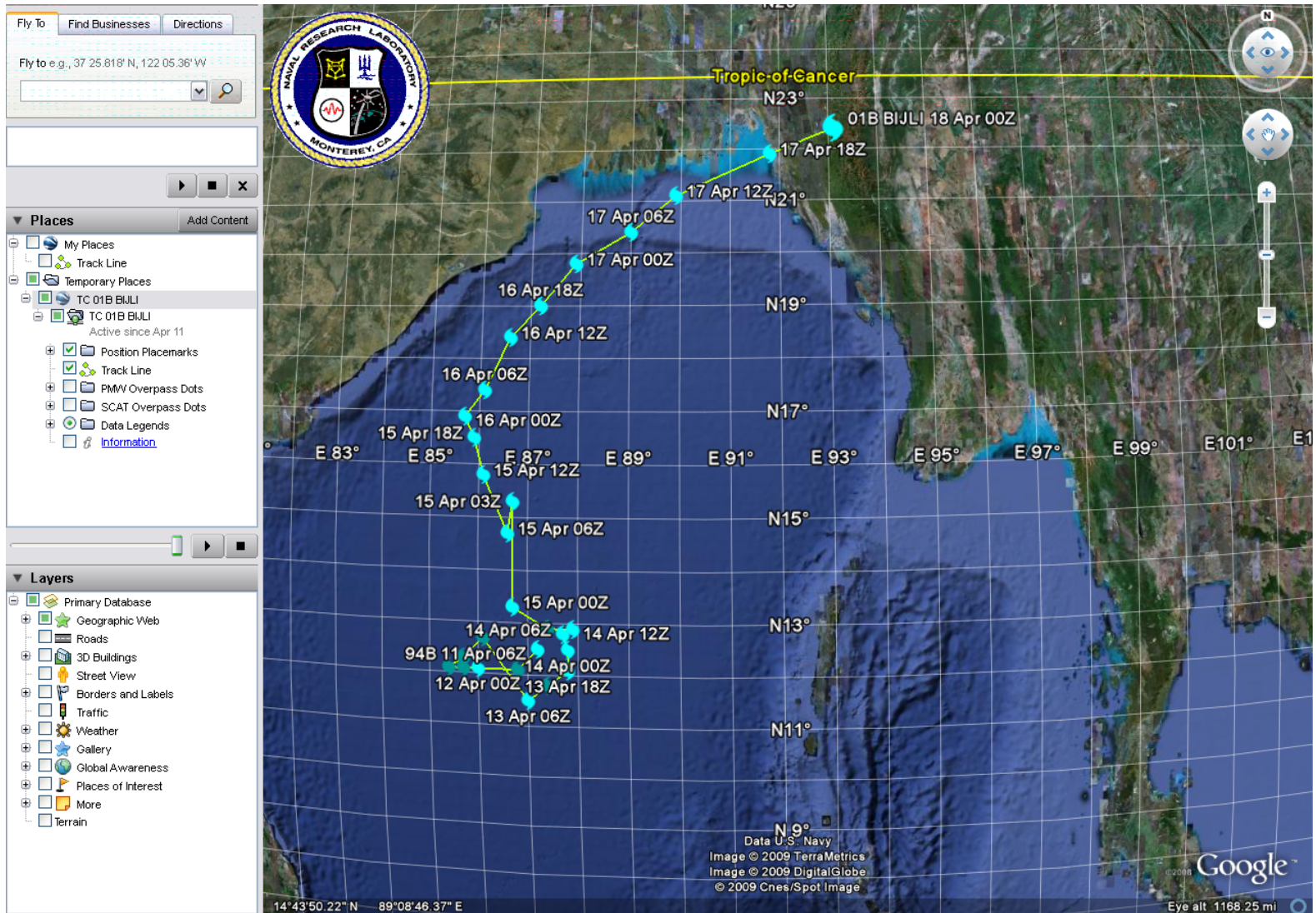
Night Time Visible



DMSP Night Time Visible Color Product

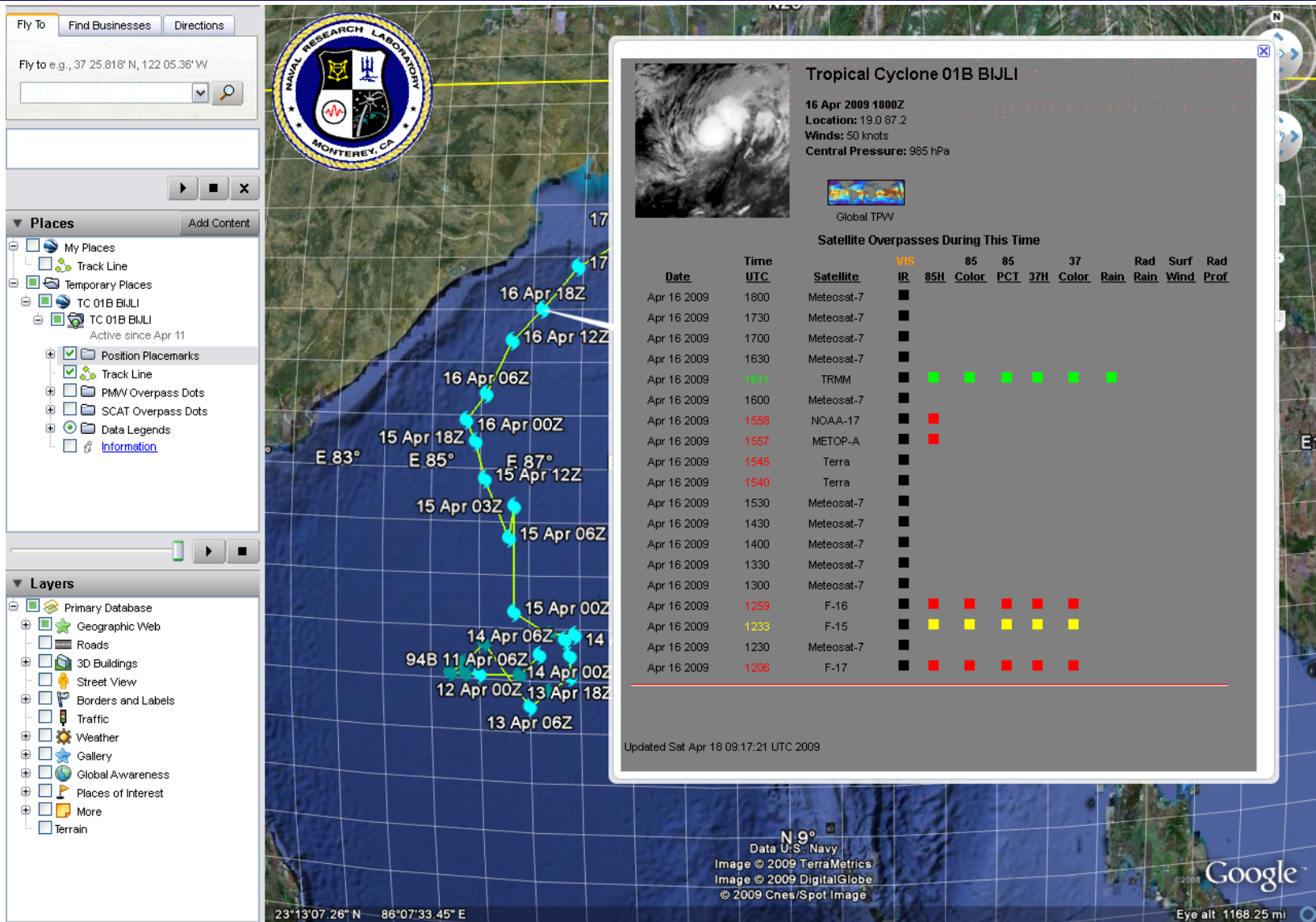


TC Web: Google Earth





TC Web: Google Earth

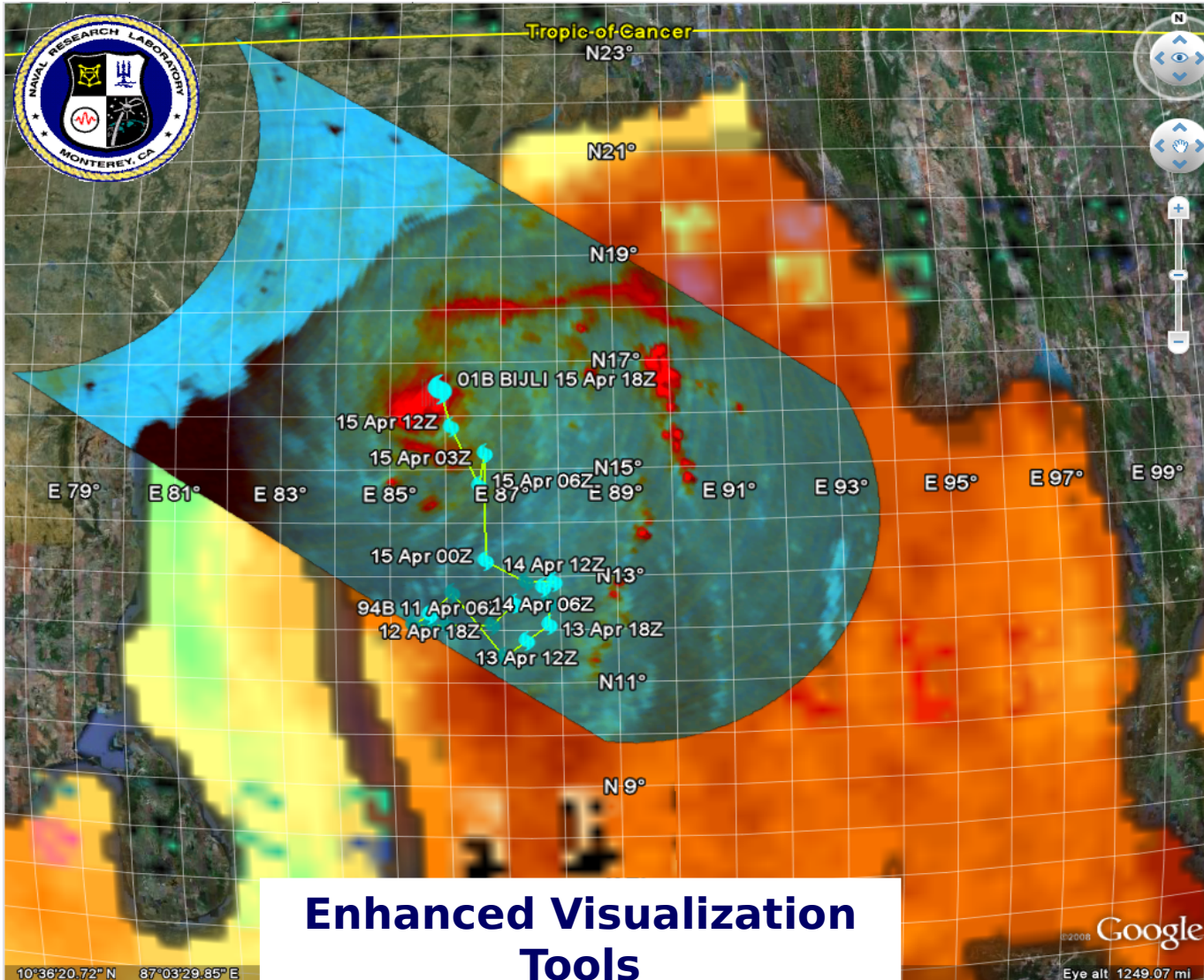


Product selection Pop-Up Menu



TC Web: Google Earth

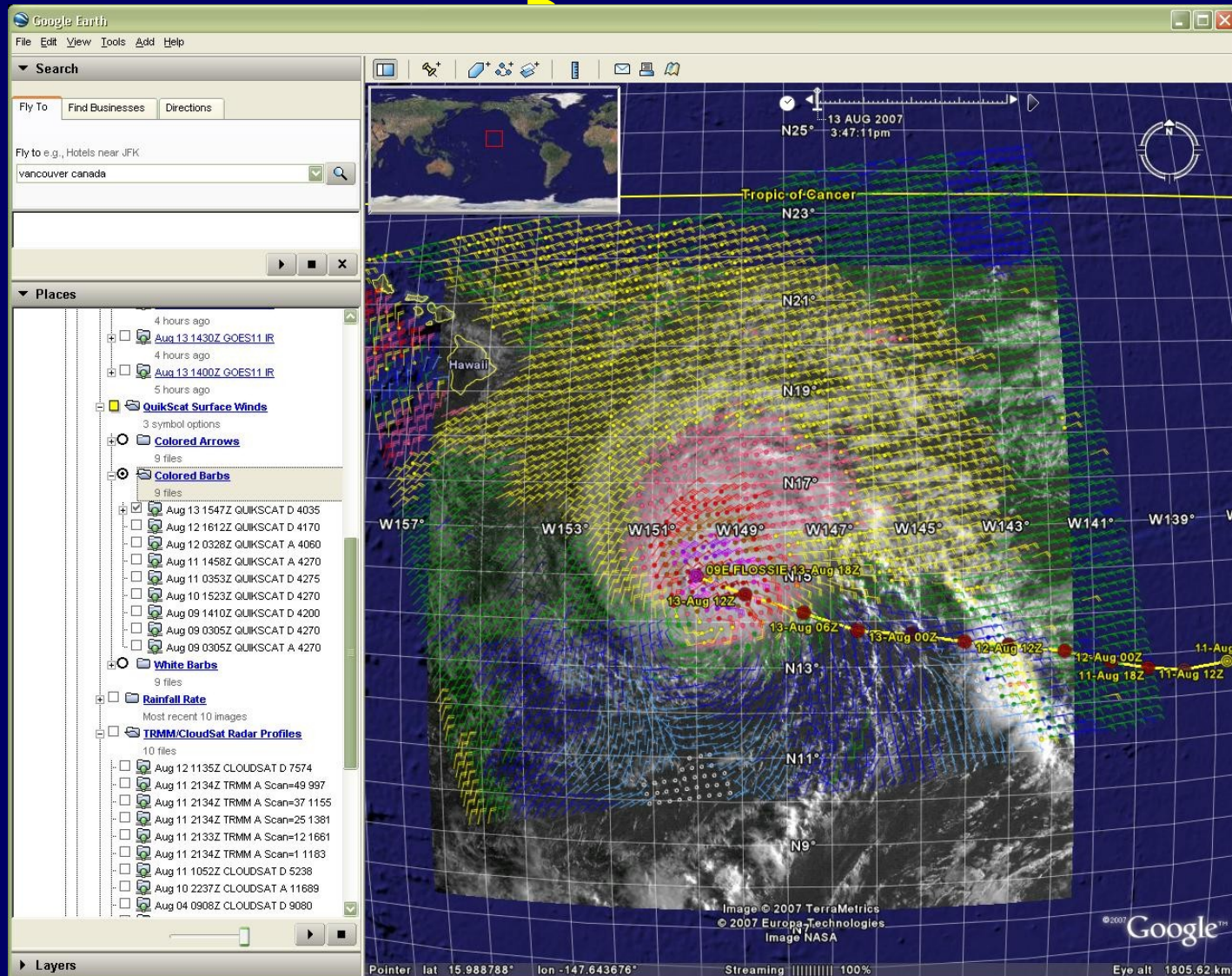
Change Background to TPW





TC Web: Google Earth

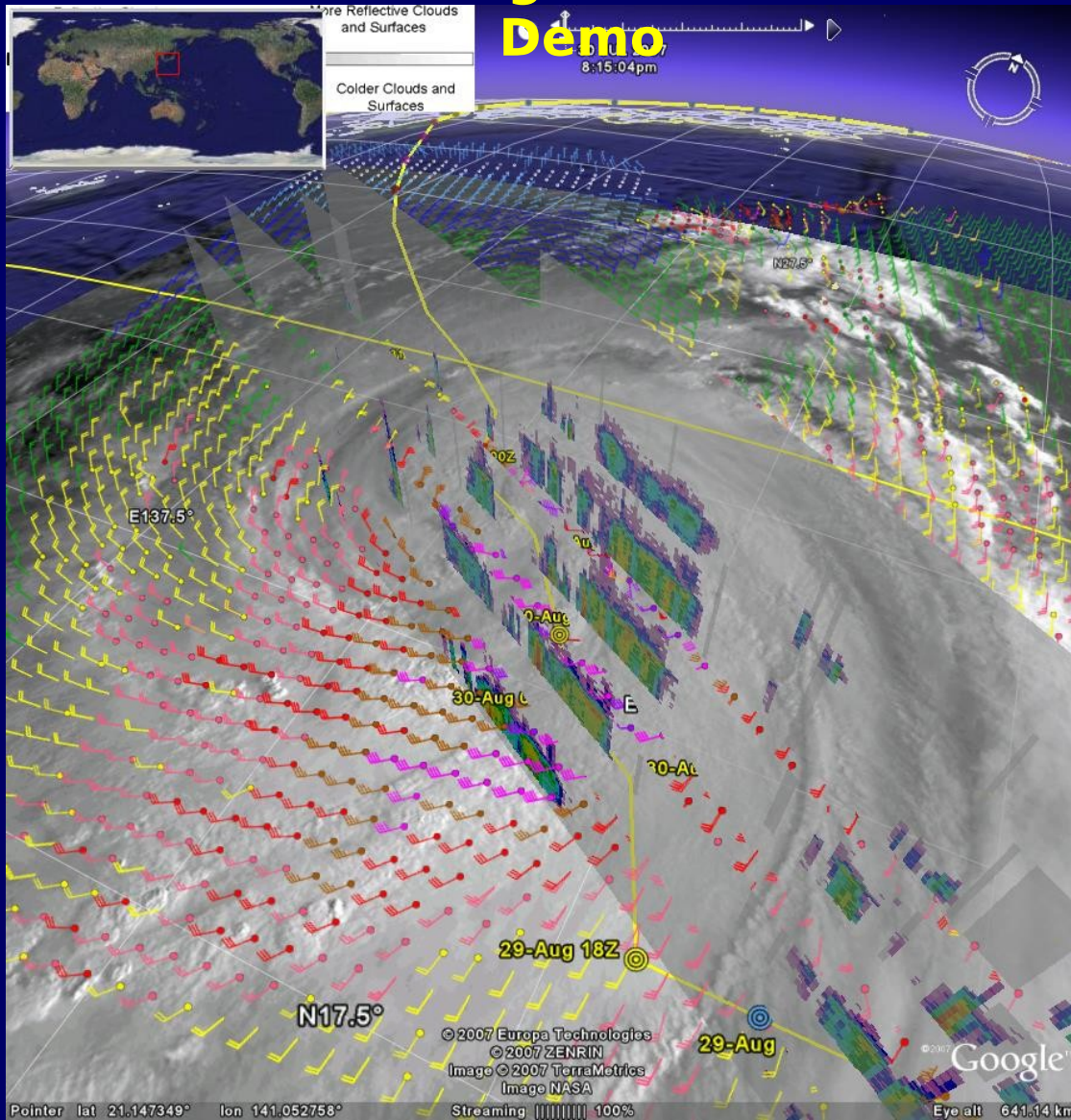
Google Earth





TC Web: Google Earth

Google Earth Demo



Background - Vis

**Middle - Scat
winds**

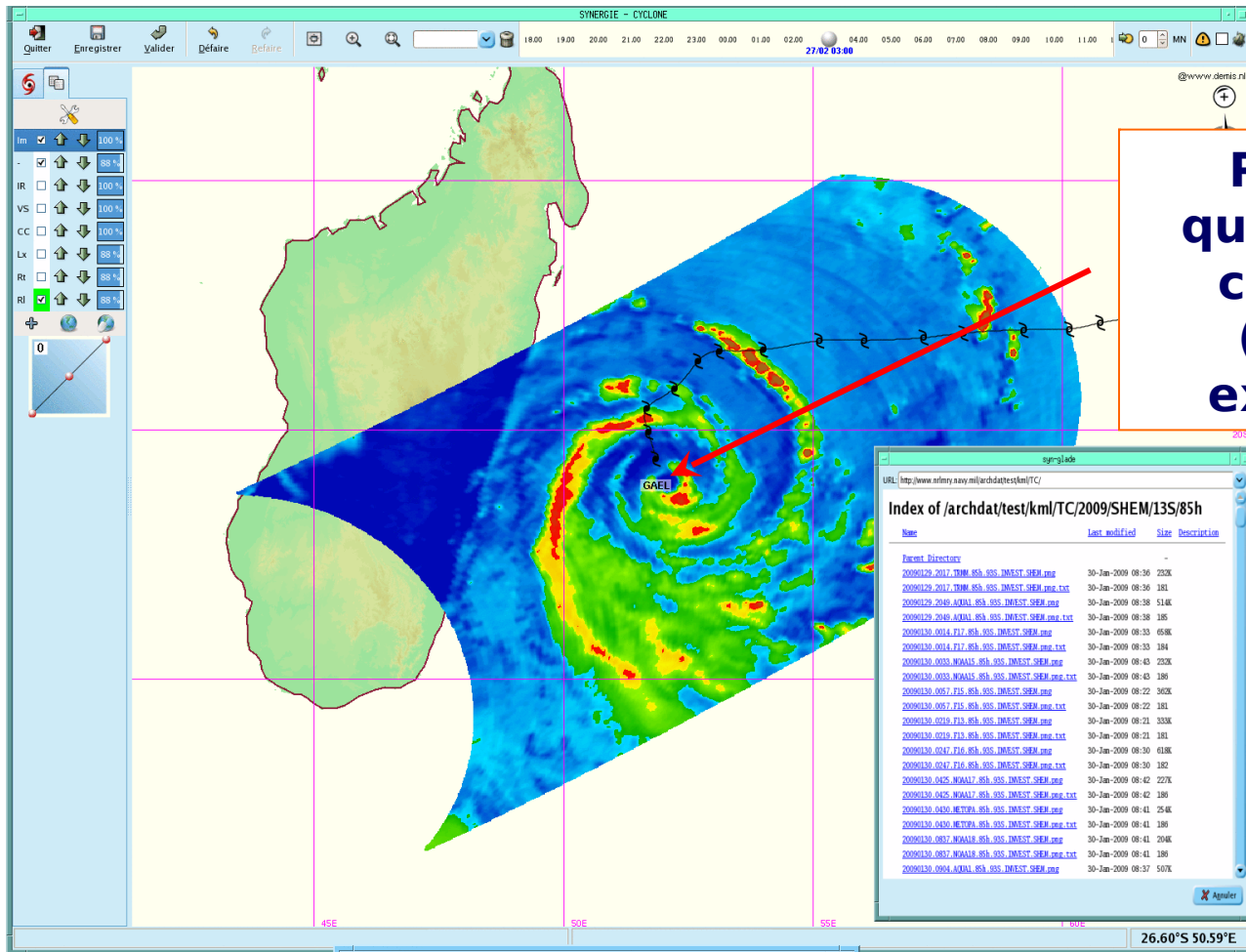
**Top - TRMM
radar**

Turk



TC Web: Google Earth

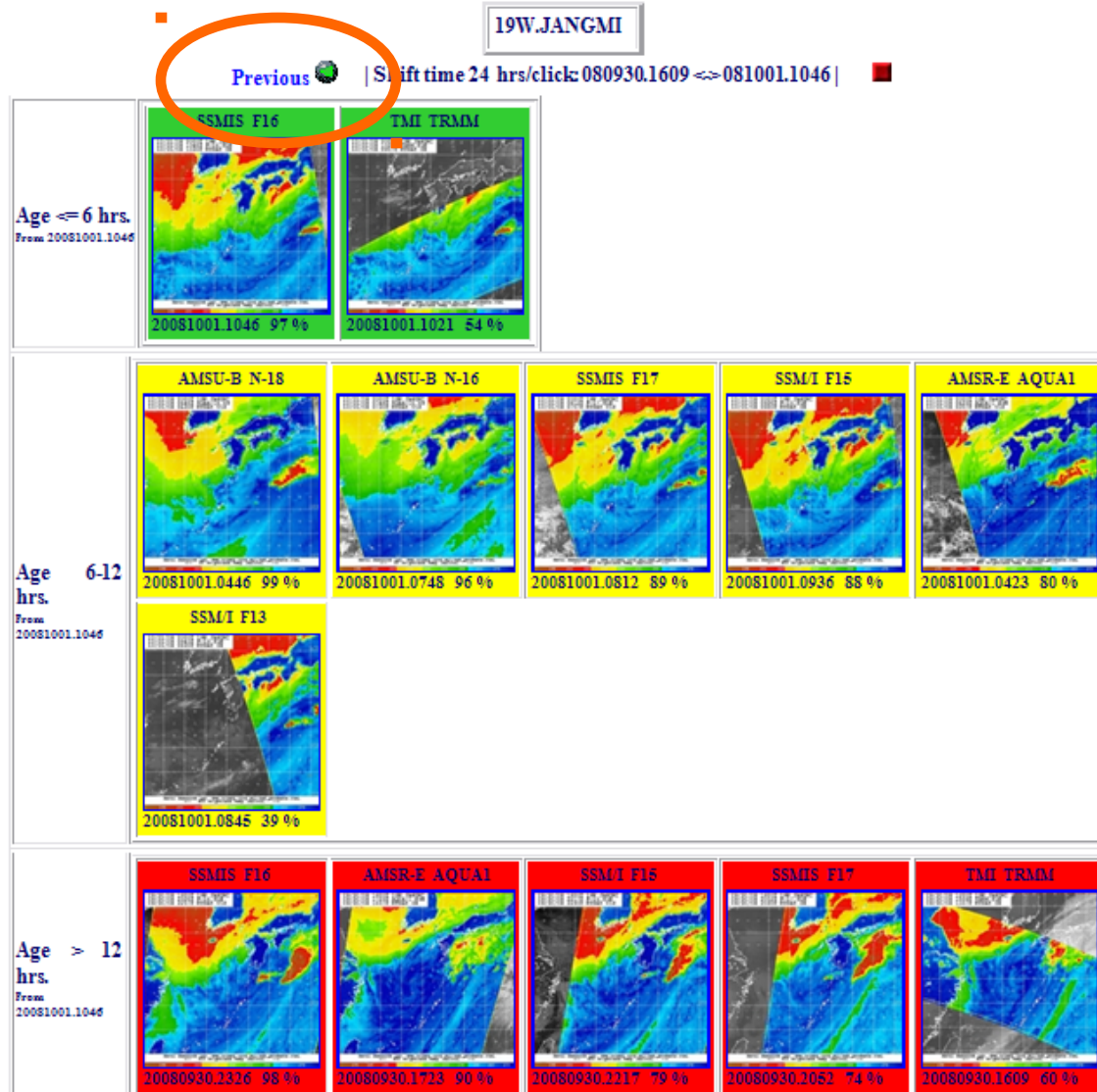
WMO TC Center (RSMC) - La Reunion Island: Meteo France



Use Google Earth kml files on internal workstation



NRL TC Web Resource



Select Any Storm

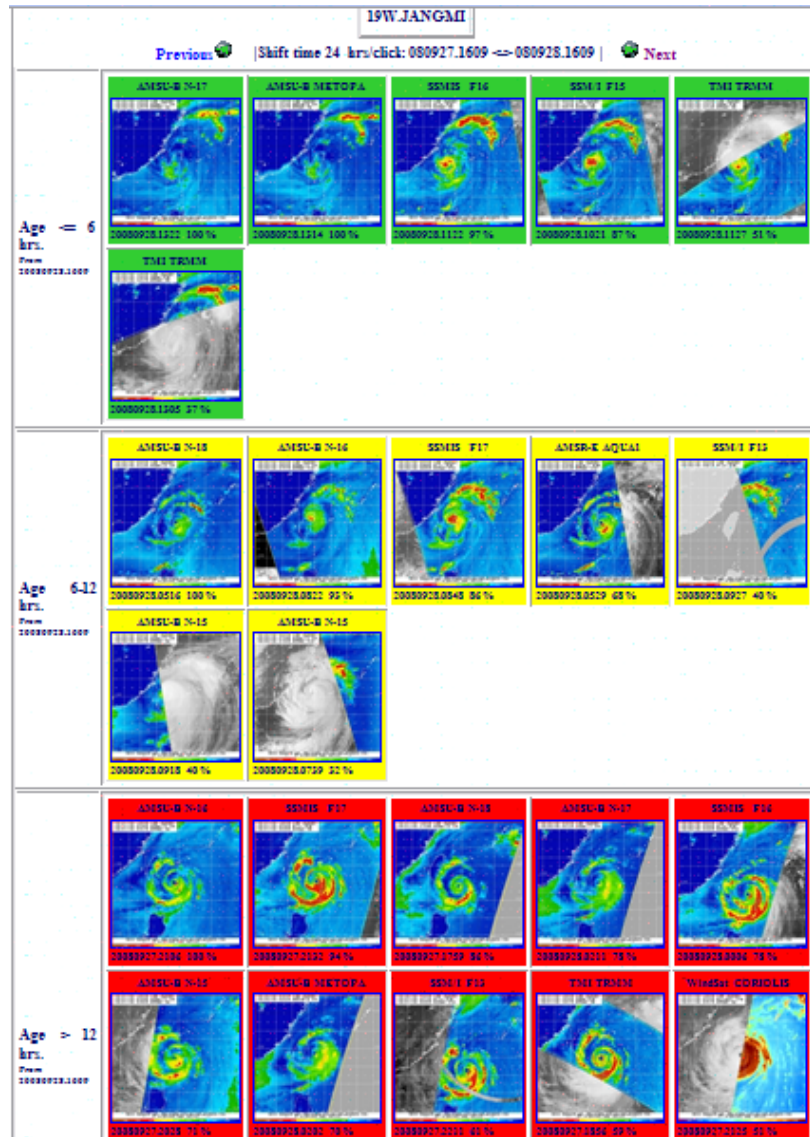
Pass Mosaic lists
the past 24 hours
of microwave
products

Note "Previous"
link

Pass Mosaic Function Addition



NRL TC Web Resource



Each click displays the next 24-hours of 85 GHz H-pol products (from all sensors) available.

Color coded by time, most recent on the top.

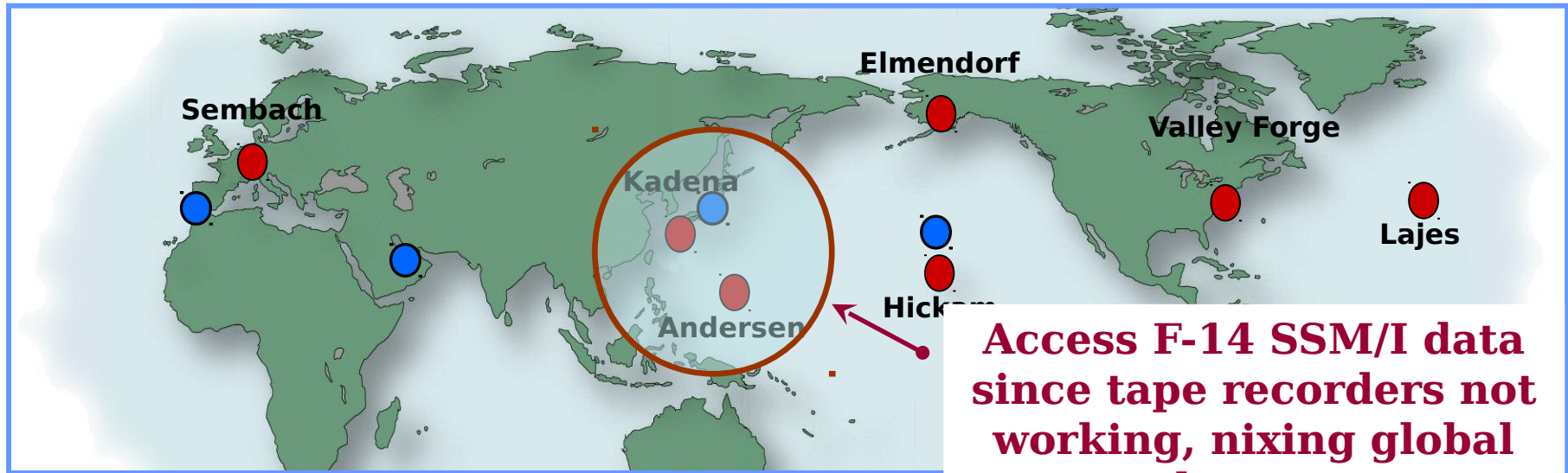
Best % coverage gets higher priority (listed 1st)

Pass Mosaic Function Addition

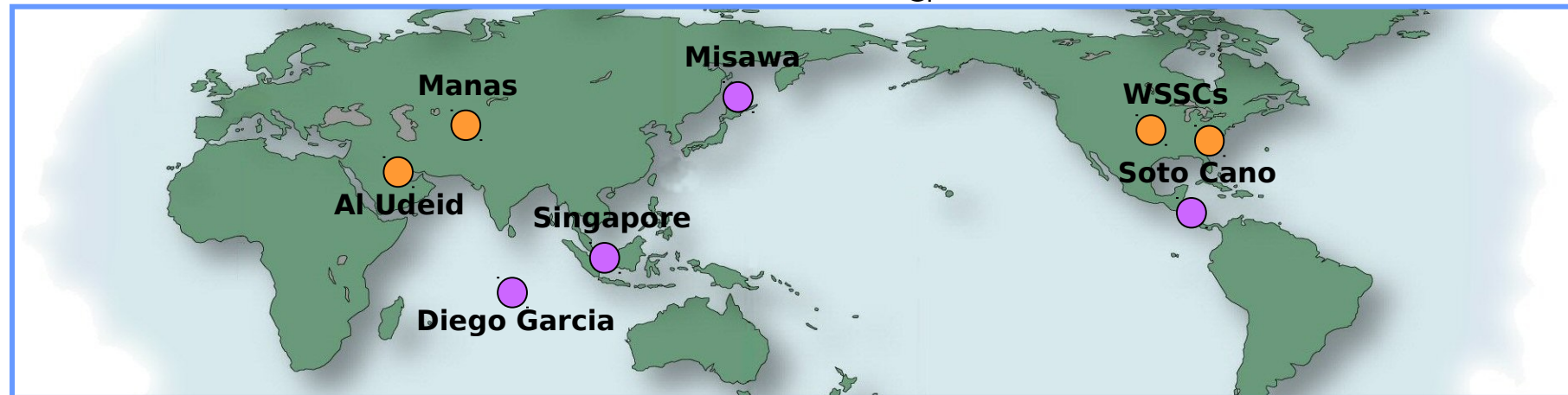


Mark-IVB/FMQ-17: Reduced Data Latency

AN/UMQ-13 [●]/FMQ-17 [●] - Fixed sites:



AN/TMQ-54 - Portable sites:





NRL TC Web Resource

Reduced Data Latency - DoD Direct Site Reception

Norfolk- NLMOC

EUMETSAT C-band broadcast:

- Meteosat-7 real-time data feed [XRIT-TDF]**
 - Full disk, 3MB, several minute data latency**
- Meteosat-9 real-time data feed [XRIT-TDF]**
 - Full disk, 300MB, 90 minute data latency**
 - Same latency as NOAA/AFWA/FNMOC**



NRL TC Web Resource

Upcoming Satellites/Sensors and Capabilities

NOAA-N' (N-19)
May 2009

AMSU/AVHRR

DMSP F-18

SSMIS, OLS

Fall 2009

MetOp
2010

ASCAT, AMSU, AVHRR

Mega Tropiques
2011

MADRAS

NPP
2012

VIIRS, ATMS

2011-

FY-3A

MWRI

2011 ?

DMSP F-19

SSMIS, OLS

2012

GCOM

AMSR2

2012

SPM

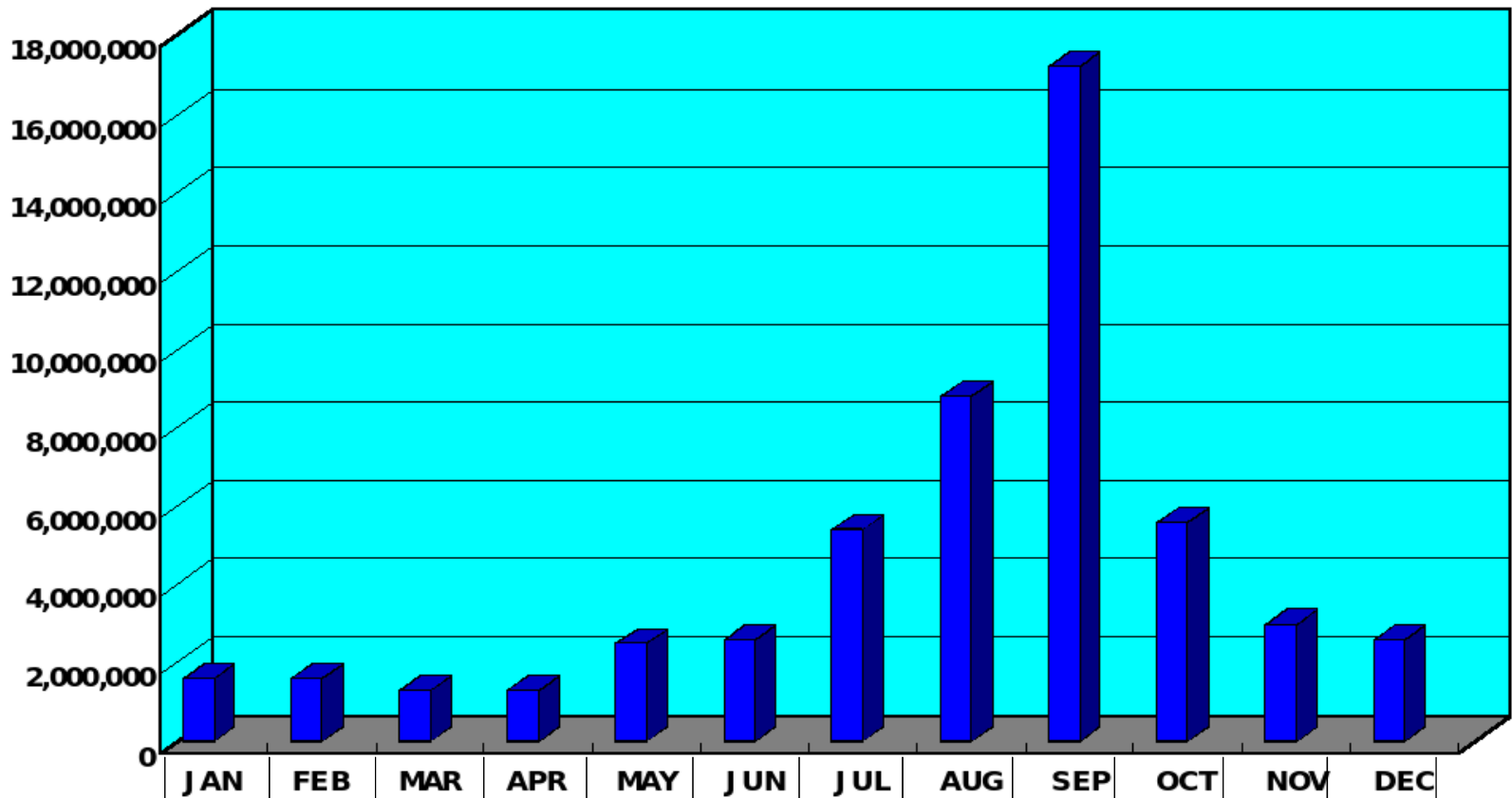
SMI-PP



NRL TC Web Resource

Number of Web Hits/Month

NRL-MRY TC Web Stats (2008)



Public Page	1.6M	1.6M	1.3M	1.3M	2.5M	2.6M	5.4M	8.8M	17.2M	5.6M	3.3M	2.5M
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